ELECTRONIC BOOK WITH ENHANCED FEATURES

FIELD OF THE INVENTION

[0001] The present invention relates generally to electronic books.

BACKGROUND OF THE INVENTION

[0002] Electronic books have been provided in which a person can read electronic book files stored on a storage medium in a compact, hand-held housing. Text is presented on a display of the housing, and more than a single electronic book can be stored on the storage medium. In this way, a person can in effect transport a large number of books for reading at the person's leisure in a single lightweight electronic book form factor. As recognized herein, such electronic books can be made even more convenient and user-friendly.

SUMMARY OF THE INVENTION

[0003] An electronic book includes a housing and first and second electronic touch screen displays supported on the housing. A digital processor in the housing controls presentation on the displays. A tangible computer-reader storage medium is accessible to the processor, with electronic book files being stored on the medium for presentation of text represented by the files in a portrait mode on the display. The processor receives a display mode change signal and in response automatically changes presentation of text on at least one display from portrait mode to landscape mode.

[0004] In some embodiments, in response to the display mode change signal the processor presents an image of a keyboard in landscape on the first display and an image of text in landscape on the second display. The display mode change signal can be generated by a person touching a key on the housing. Alternatively or in addition an accelerometer can be provided in the housing to provide an input signal to the processor. The display mode change signal can be generated by the signal exceeding a threshold.

[0005] In some implementations the processor presents a user interface on the display allowing a user to select a language. A keyboard associated with the language selected by the user is automatically presented upon receipt of a display mode change signal. In example embodiments the housing is foldable to mimic opening and closing a paper book.

[0006] In some example embodiments a position signal receiver is supported by the housing and communicates with the processor. In other embodiments a solar charger receptacle is on the housing and is connectable to a solar charger to charge a battery in the housing.

[0007] In another aspect, an electronic book includes a housing, at least a first electronic touch screen display supported on the housing, and a digital processor in the housing controlling presentation on the display. A tangible computer-reader storage medium is accessible to the processor. Electronic book files are stored on the medium for presentation of text represented by the files on the display. The processor presents a user interface on the display allowing a user to select a language, with a keyboard associated with the language selected by the user being automatically presented on the display upon receipt of a display mode change signal.

[0008] In another aspect, a method includes providing an electronic book with opposed first and second displays facing each other on a foldable housing, and presenting book text on each page in portrait layout. Upon receipt of a mode change signal, the method presents on the first display an image of a keyboard or text in landscape layout and presents on the second display text in landscape layout.

[0009] The details of the present invention, both as to its structure and operation, can best be understood in reference to the accompanying drawings, in which like reference numerals refer to like parts, and in which:

BRIEF DESCRIPTION OF THE DRAWINGS

[0010] FIG. **1** is a perspective view of an example electronic book in the closed configuration;

[0011] FIG. **2** is a perspective view showing the electronic book of FIG. **1** in the open configuration;

[0012] FIG. **3** is a block diagram of an example book;

[0013] FIGS. **4-6** are schematic diagrams illustrating changing between landscape and portrait modes;

[0014] FIG. **7** is a flow chart showing some of the logic outlined in FIGS. **4-6**; and

[0015] FIG. **8** is a flow chart of the keyboard language logic.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0016] Referring initially to FIGS. **1** and **2**, an example electronic book **10** is shown that can have, in one embodiment, a foldable configuration to mimic opening and closing a paper book. Specifically, the electronic book **10** may have a rigid lightweight plastic "cover" member **12** joined to a rigid lightweight plastic "back" member **14** along a hinge **16** for movement between an open configuration (FIG. **2**), wherein an electronic display **18** of the "cover" member **12** is exposed for viewing, and a closed configuration (FIG. **1**), wherein the display **18** is not exposed because it lies flush against the inside surface of the "back" member **14**. If desired, an input device **20** such as another touch screen display may be provided on, e.g., the "back" member **14**.

[0017] FIG. **3** shows some internal components of the electronic book **10**, including a lightweight portable plastic housing **24** bearing the displays **18**, **20**. Without limitation the displays may be a liquid crystal display (LCD), light emitting diode display (LED), or other appropriate electronic display technology.

[0018] If desired, the housing **24** may be formed with a solar charger cord receptacle **26** for receiving a connector of a cord **28** of a solar charger **30**. Charge circuitry **32** such as appropriate conversion, filtering, and amplification circuitry may be within the housing **24** in communication with the receptacle **26** to provide charge current to one or more rechargeable DC batteries **34** in the housing **24**.

[0019] The battery **34** powers one or more processors **36** in the housing **24**. In turn, the processor **36** can access a tangible computer-reader storage medium **38** such as but not limited to disk-based storage and/or solid state storage to execute logic herein. The medium **38** may be contained in the housing as shown or may be remotely accessed by the processor over a network.

[0020] Electronic book files can also be stored on the medium **38**, as well as other applications including, for example, a word processing application. It is to be understood that the processor **36** controls the displays **18**, **20** to present user interfaces including a list of titles stored on the medium **38**, command input elements to support the logic set forth